



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

41505

7590

10/09/2008

WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION)
CIRA CENTRE, 12TH FLOOR
2929 ARCH STREET
PHILADELPHIA, PA 19104-2891

EXAMINER

LEE, CHUN KUAN

ART UNIT

PAPER NUMBER

2181

DATE MAILED: 10/09/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,325	01/16/2004	John E. Paff	MSFT-2912/305777.2	8370

TITLE OF INVENTION: COMMUNICATION OF INFORMATION VIA A SIDE-BAND CHANNEL, AND USE OF SAME TO VERIFY POSITIONAL RELATIONSHIP

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	01/09/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax **(571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

41505 7590 10/09/2008

WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION)

CIRA CENTRE, 12TH FLOOR

2929 ARCH STREET

PHILADELPHIA, PA 19104-2891

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10759.325

01/16/2004

John E. Paff

MSFT-2912/305777.2

8370

TITLE OF INVENTION: COMMUNICATION OF INFORMATION VIA A SIDE-BAND CHANNEL, AND USE OF SAME TO VERIFY POSITIONAL RELATIONSHIP

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	01/09/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
LEE, CHUN KUAN	2181	710-062000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,325	01/16/2004	John E. Paff	MSFT-2912/305777.2	8370
41505	7590	10/09/2008	EXAMINER	
WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION) CIRA CENTRE, 12TH FLOOR 2929 ARCH STREET PHILADELPHIA, PA 19104-2891			LEE, CHUN KU'AN	
			ART UNIT	PAPER NUMBER
			2181	
DATE MAILED: 10/09/2008				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 802 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 802 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability**Application No.**

10/759,325

Applicant(s)

PAFF ET AL.

Examiner

Chun-Kuan Lee

Art Unit

2181

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 07/24/2008.
2. ☒ The allowed claim(s) is/are 1-3,10,13,14,16-20,23 and 30-32.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Alford W. Kindred/
Supervisory Patent Examiner, Art Unit 2181

DETAILED ACTION

I. EXAMINER'S AMENDMENTS

OPTIONS AVAILABLE TO THE APPLICANT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by **37 CFR § 1.312**. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

AUTHORIZATION FOR THE CORRECTIONS BY THE EXAMINER

2. Authorization for this examiner's amendment was given in a telephone interview with Kenneth Eiferman, having Reg. No. 51,647, on 09/29/2008. Accordingly, since a complete record of the interview has been incorporated in the instant examiner's amendment, no separate interview summary form is included in the instant office letter **MPEP § 713.04**.

CORRECTIONS MADE IN THE APPLICATION

3. The application has been amended as following:

IN THE CLAIMS:

The below described amendments to the claims are necessary to further clarify the claimed invention.

NOTE: The claims amended by this examiner's amendment have been referred to by their original claim number

4. Withdrawn claims 4-9, 15, 21-22 and 24-29 are all cancelled.
5. In claim 1, "A method of communicating between a first component and a second component located within a computer, the first component and second component being communicatively connected to each other through a bus that is accessible to components other than the first component and the second component, the method comprising:

establishing a light-based communication connection between the first component and the second component in order to ensure a defined positional relationship between the first and second components, wherein the light-based communication connection does not transmit information through the bus;

transmitting a datum between the first component and the second component using said light-based communication connection."

is replaced with -A method of communicating between a first component and a second component located inside a computer enclosure, the method comprising:

establishing a first communication connection between the first component and the second component inside the computer enclosure through a bus that is accessible to components other than the first component and the second component;

establishing a light-based communication connection between the first component and the second component inside the computer enclosure in order to ensure a defined positional relationship between the first and second components, wherein the light-based communication connection does not transmit information through the bus and is not accessible to the components other than the first component and the second component; and

transmitting a datum between the first component and the second component using said light-based communication connection.-.

6. In claim 10, "A system comprising:

a first component;

a second component communicatively connected to said first component through a first communication channel that includes a bus, said bus being accessible to components other than said first component and said second component; and

a second communication channel that communicatively connects said first component with said second component using light-based communications, said second communication channel enabling the transmission of a datum in at least one direction between said first component and said second component without exposing said datum to said bus and ensuring a defined positional relationship between the first and second components,

wherein the first component comprises an electronic device mounted on a computer motherboard, and the second component comprises a plug-in board that plugs into an I/O slot located on the computer motherboard,

and wherein the second light based communication channel enables transmission of said datum between said first component and said second component only when said second component is plugged into the I/O slot thereby establishing a fixed and defined positional orientation between the first and second components."

is replaced with -A system comprising:

a first component and a second component located inside a computer enclosure;
the second component communicatively connected to said first component through a first communication channel that includes a bus inside the computer enclosure, said bus being accessible to components other than said first component and said second component; and

a second communication channel that communicatively connects said first component with said second component using light-based communications inside the computer enclosure, said second communication channel enabling the transmission of a datum in at least one direction between said first component and said second component without exposing said datum to said bus and to the components other than the first component and the second component, and ensuring a defined positional relationship between the first and second components,

wherein the first component comprises an electronic device mounted on a computer motherboard, and the second component comprises a plug-in board that plugs into an I/O slot located on the computer motherboard,

and wherein the second light based communication channel enables transmission of said datum between said first component and said second component

only when said second component is plugged into the I/O slot thereby establishing a defined positional orientation between the first and second components.-.

7. In claim 16, in line 3, "... to establish the respective identities and ..." **is replaced with** -... to establish respective identities and ...-.

8. In claim 17, "A computer-readable storage medium encoded with computer-executable instructions to perform a method of verifying that a first component is within a first positional relationship to a second component, the first component and the second component being communicatively connected to each other by a bus that is accessible to sources remote from the first component and the second component, the first and second components located within a computer, the method comprising:

 sending a first datum from the first component to the second component;
 receiving a second datum at the first component from the second component, the second datum being communicated from the second component to the first component through a light-based secondary communication channel and without use of the bus;

 determining that the second component satisfies the first position relationship based on receipt of the second datum."

Is replaced with -A computer-readable storage medium encoded with computer-executable instructions to perform a method of verifying that a first component is within a first positional relationship to a second component, the first and second components located inside a computer enclosure, the method comprising:

establishing a primary communication channel between the first component and the second component inside the computer enclosure through a bus that is accessible to components other than the first component and the second component;

sending a first datum from the first component to the second component;

receiving a second datum at the first component from the second component, the second datum being communicated from the second component to the first component through a light-based secondary communication channel inside the computer enclosure and without use of the bus, wherein the second datum is not accessible to components other than the first component and the second component;

determining that the second component satisfies the first position relationship based on receipt of the second datum.-.

II. DISTINGUISHING FEATURES RECITED IN THE CLAIMS

ALLOWABLE SUBJECT MATTER

9. Claims 1-3, 10, 13-14, 16-20, 23 and 30-32 are allowed.

The following is an Examiner's Statement of Reasons for Allowance. See MPEP 1302.14:

10. The primary reasons for allowance of claim 1 in the instant application is the combination with the inclusion in the claim that there are "A method of communicating

between a first component and a second component located inside a computer enclosure, the method comprising:

establishing a first communication connection between the first component and the second component inside the computer enclosure through a bus that is accessible to components other than the first component and the second component;

establishing a light-based communication connection between the first component and the second component inside the computer enclosure in order to ensure a defined positional relationship between the first and second components, wherein the light-based communication connection does not transmit information through the bus and is not accessible to the components other than the first component and the second component; and

transmitting a datum between the first component and the second component using said light-based communication connection" The prior art of record including the disclosures of Hocker et al., (US Patent 5,930,368) and Elliott et al., (US Pub.: 2004/0184615) neither anticipates nor renders obvious the above recited combination. Because claims 2-3 and 30 depend directly or indirectly on claim 1, these claims are considered allowable for at least the same reasons noted above.

11. The primary reasons for allowance of claim 10 in the instant application is the combination with the inclusion in the claim that there are "A system comprising:

a first component and a second component located inside a computer enclosure;

the second component communicatively connected to said first component through a first communication channel that includes a bus inside the computer enclosure, said bus being accessible to components other than said first component and said second component; and

a second communication channel that communicatively connects said first component with said second component using light-based communications inside the computer enclosure, said second communication channel enabling the transmission of a datum in at least one direction between said first component and said second component without exposing said datum to said bus and to the components other than the first component and the second component, and ensuring a defined positional relationship between the first and second components,

wherein the first component comprises an electronic device mounted on a computer motherboard, and the second component comprises a plug-in board that plugs into an I/O slot located on the computer motherboard,

and wherein the second light based communication channel enables transmission of said datum between said first component and said second component only when said second component is plugged into the I/O slot thereby establishing a defined positional orientation between the first and second components" The prior art of record including the disclosures of Hocker et al. (US

Patent 5,930,368) and Elliott et al. (US Pub.: 2004/0184615) neither anticipates nor renders obvious the above recited combination. Because claims 13-14, 16 and 31 depend directly or indirectly on claim 10, these claims are considered allowable for at least the same reasons noted above.

12. The primary reasons for allowance of claim 17 in the instant application is the combination with the inclusion in the claim that there are "A computer-readable storage medium encoded with computer-executable instructions to perform a method of verifying that a first component is within a first positional relationship to a second component, the first and second components located inside a computer enclosure, the method comprising:
establishing a primary communication channel between the first component and the second component inside the computer enclosure through a bus that is accessible to components other than the first component and the second component;
sending a first datum from the first component to the second component;
receiving a second datum at the first component from the second component, the second datum being communicated from the second component to the first component through a light-based secondary communication channel inside the computer enclosure and without use of the bus, wherein the second datum is not accessible to components other than the first component and the second component;

determining that the second component satisfies the first position relationship based on receipt of the second datum" The prior art of record including the disclosures of Hocker et al. (US Patent 5,930,368) and Elliott et al. (US Pub.: 2004/0184615) neither anticipates nor renders obvious the above recited combination. Because claims 18-20, 23 and 32 depend directly on claim 17, these claims are considered allowable for at least the same reasons noted above.

13. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

IMPORTANT NOTE

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on (571) 272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C.K.L./

October 06, 2008

Chun-Kuan (Mike) Lee
Examiner
Art Unit 2181

/Alford W. Kindred/

Supervisory Patent Examiner, Art Unit 2181